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IMPROVED METHOD AND SYSTEM FOR ELECTRONIC DATA SALES AND DISTRIBUTION OVER WIDE AREA COMPUTER NETWORKS

1. The first part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) as $t \rightarrow \infty$. It is shown that the solutions of the system (1) are bounded and tend to zero as $t \rightarrow \infty$.

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IMPROVED METHOD AND SYSTEM FOR ELECTRONIC DATA SALES AND DISTRIBUTION OVER WIDE AREA NETWORKS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to electronic commerce and, more specifically, to an Improved Method and System for Electronic Data Sales and Distribution
5 over Wide Area Computer Networks

2. Description of Related Art

Software sales over wide area networks and in particular, the World Wide Network have expanded rapidly to the extent that today a large portion of all software sales
10 are conducted over the World Wide Web. There are however, several problems due to the conventional arrangement of these e-commerce systems. If we first turn to Figure 1, we can begin to understand how conventional sale of software over the World Wide Web is accomplished.

Figure 1 depicts conventional wide area network based e-commerce layout.
15 As we can see, Wide Area Network Conduits 10 (typically known as the World Wide Web) has an infinite number of participants. Some examples as it might apply to the present invention will include a Wide Area Network Serve (for example 12A, 12B, and 12C) where e-commerce service supplier presents the environment for which a customer can purchase the

suppliers software. Within each server 12, resides the Software Distribution Points 14A, 14B, and 14C within which the actual master copies of the suppliers software resides. Each supplier has the ability to modify or otherwise access the Distribution Points 14 via the Supplier Terminal 16. Typically new or revised copies of the software are to distributed or
5 housed on the supplier site in their Local Area Network Server 18. Customers then, have the ability to "visit" a particular e-commerce site via their own Personal Terminal 20. If we now turn to Figure 2, we can examine how the supplier might post their software product at each Server 12 for distribution to customers.

Figure 2 describes the conventional supplier posting process for a software
10 supplier to establish and maintain wide area network based software sale. At the conclusions of these Supplier Development Process 200, includes both new software development as wells as releases of revised, improved, or corrected software. And for each Software Release 202, a series of steps must occur. First, the software or revision is developed for sale 204, then for each e-commerce service provider 206, the software must be personalized so that it
15 complies with the format and licensing requirements of each e-commerce site 208. After which, the e-commerce site compliant software is uploaded to a particular e-commerce site 210. In which steps 208 and 210 must be re-executed off each e-commerce supplier. Once all e-commerce suppliers have had an upload 212, then the new release process has been completed 214 and the customers are able to purchase the particular software revision 216.
20 The problem with this conventional posting process is that for each software release, not only does new software have to be completed and tested, but also for each difference between each supplier mandates that the software supplier must again revise and upload the software

potentially several more times prior to the customer being able to purchase it from all the e-commerce service providers. The multitude of revisions and uploads can create a huge amount of work for the software supplier, particularly when new additions or corrections are created. What is needed is a software supplier posting process that minimizes the number of
5 revisions and uploads that the supplier must conduct in order to have widespread e-commerce outlets for customers to purchase their software. If we now turn to Figure 3, we can examine conventional customer e-commerce software purchase process 216.

Figure 3 is a conventional customer e-commerce software purchase process. It can be understood that each e-commerce supplier may decide to employ a different
10 configuration. For example, the e-commerce supplier 12A may first require the customer to download their software from their server 300. After which, the customer must run what is conventionally know as a setup.exe program 302 in which the software will function 304 and only for a limited time. This is known as a try before you buy software purchase. At anytime before or after the end of the try before you buy period, the customer may chose to purchase
15 the software 306 after which they are provided with a key code by the e-commerce supplier. For example, 12A that is entered into the software 308 after which the software functions without limitation. In another e-commerce site 12B, for example, a different method for purchase may exist. When the customer purchases the software 310, they then download the software from the supplier 12B, 312 and then run the setup.exe file 314. The difference here,
20 is that prior to the customer downloading the software 312, the purchase must be conducted. As can be appreciated, the process provided by supplier 12A will create a totally different environment and a different software package then that software provided by the process of

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supplier 12B. Furthermore, supplier 12C might engage in yet another version of the purchase process. The problem with these prior processes, is that the interface to the customer is inconsistent and depending upon which e-commerce site they visit, they will experience a different purchase process. What is needed, is a way for the supplier of software to determine
5 what the customers purchase process will be while still maintaining the necessary security requirements. To review, if we now turn to Figure 4, we can see that the customer from their terminal 20 buys software by making a payment 400 to the e-commerce server 12 after which the software is downloaded 402 from the e-commerce server 12 to the customer terminal 20.

Figure 4 depicts the conventional relationships between the customer, the e-commerce, the service provider, and the software supplier. Any updates or new releases to
10 the software 404 originate from the supplier terminal 16 and are uploaded to the e-commerce server 12. Furthermore, when sales are made, the records and payments are transmitted from the e-commerce supplier 12 to the supplier terminal 16. If we now turn to Figure 5, we can see that surprisingly the conventional software application 500 is represented by this depiction
15 of a storage media as a single discrete package 500.

BRIEF DESCRIPTION OF THE DRAWINGS

The objects and features of the present invention, which are believed to be novel, are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages, may best be understood by reference to the following description, taken in connection with the accompanying drawings, of which:

Figure 1 depicts conventional wide area network based e-commerce layout;

Figure 2 describes the conventional supplier posting process for a software supplier to establish and maintain wide area network based software sale;

Figure 3 is a conventional customer e-commerce software purchase process;

Figure 4 depicts the conventional relationships between the customer, the e-commerce, the service provider, and the software supplier;

Figure 5 is a pictorial depiction of the conventional software application;

Figures 6A and 6B are pictorial depictions of the modularized software application of the present invention;

Figure 7 depicts the relationships between the supplier, the customer, and the e-commerce supplier under the system of the present invention;

Figure 8 depicts the improved customer e-commerce software purchase process;

Figure 9 depicts a preferred arrangement of the participants in the improved e-commerce software sales process; and

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DETAILED DESCRIPTION
OF THE PREFERRED EMBODIMENTS

The following description is provided to enable any person skilled in the art to make and use the invention and sets forth the best modes contemplated by the inventors of carrying out their invention. Various modifications, however, will remain readily apparent to those skilled in the art, since the generic principles of the present invention have been defined herein specifically to provide an Improved Method and System for Software Sales and Distribution over Wide Area Networks.

The present invention can best be understood by initial consideration of Figure 6A and 6B. Figures 6A and 6B are pictorial depiction's of the modularized software application of the present invention. Under the present invention, the prior software application is actually split up and is now referred to as a modularized software application 600. Modularized software application is composed of two parts, a programmed module 602 and a licensing module 604. Software application 600 will not function without both modules 602 and 604 present. It should be recognized, as is depicted in Figure 6B, the Licensing Module 604 and Program Module 602 are separable from one another and therefore can be distributed and installed separately. If we now turn to Figure 7, we can now begin to understand the impact of this change.

Figure 7 depicts the relationships between the supplier, the customer, and the e-commerce supplier under the system of the present invention. Under the system of the present invention, in purchasing software from the customer terminal 20 makes payment 400

to the e-commerce supplier 12. What is new here, is in exchange for payment the customer receives only the Licensing module 604 after which an automated order is placed 700 directly to the suppliers LAN server 18A in which the LAN server 18A delivers a program module 602 to the customers terminal 20. The benefit of this arrangement is that the e-commerce site
5 12 need only maintain the relatively small licensing module 604. Furthermore, that module 604, will be formatted once for the e-commerce supplier and will not be changed for changing versions of the program module 602. It is further conceivable that a licensing module 604 from one program module might be compatible with other applications from the same supplier, such that a single module 604 could be compatible with a particular e-commerce
10 supplier 12 that will cover a whole series of different software applications supplied by a particular supplier. If we now turn to Figure 8, we can examine how the improved customer purchase process 800 will be conducted.

Figure 8 depicts the improved customer e-commerce software purchase process. Within the e-commerce supplier site 12, the customer will now download only the
15 licensing module 802. This licensing module can either be purchased or simply downloaded, in which this choice will become important. The users must then, within their own terminal execute the licensing module 804 which will trigger the automated program module download 806 from the supplier server 18A (see Figure 7). If a customer has made an authorized purchase 808, the software will be fully functional 810. If however, the purchase
20 is not authorized 812, the software will only temporarily function 814 which is essentially a try before you buy scenario. However, other "authorization" requirements might be imposed, such as that the customer execute the licensing module software program 804 within 24 hours

after its download. This will prevent users from wide scale distribution of these licensing modules and/or from downloading obsolete versions of the program module. If we now turn to Figure 9, we can see how this improved system layout would appear as it interfaces with the Wide Area Network Conduit 10.

5 Figure 9 depicts a preferred arrangement of the participants in the improved e-commerce software sales process. As can be seen, the e-commerce servers 12 now only maintain the licensing modules at their distribution points 15. In contrast to the prior system where the entire software package was located there. Furthermore, the suppliers' LAN server 18A now has a direct connection to the Wide Area Network Conduit 10, such that it can be
10 the distribution point of the programming module 19. Supplier Terminal 16 might now access the Wide Area Network 10 via the server 18A or even directly on its own depending on the suppliers' desires. The result of this improved arrangement is depicted clearly in the process of Figure 10.

 Figure 10 depicts the improved supplier posting process under the system of
15 the present invention. In this improved supplier posting process 100, and upon conclusion of the Supplier Development Process 102, and for each software release 104, the supplier must develop a program module for sale 106. The supplier then stores the program module on their own Wide Area Network Server 108. On completion of this storing process 110, and for each e-commerce supplier 112, the software supplier must develop a licensing module 114 and
20 then upload it to the e-commerce supplier site 116. Again, it should be understood that the licensing module typically need only be revised once for each e-commerce supplier.

Therefore, it only needs to be uploaded once to each e-commerce supplier. Furthermore, since the licensing module is much smaller in size than the program module, the upload step 116 will not only be reduced in frequency, but will also be reduced in elapsed time. When the licensing module has been fully uploaded to each e-commerce service supplier 118, then the
5 improved customer purchase process 800 can be commenced.

Those skilled in the art will appreciate that various adaptations and modifications of the just-described preferred embodiment can be configured without departing from the scope and spirit of the invention. Therefore, it is to be understood that,
10 within the scope of the appended claims, the invention may be practiced other than as specifically described herein.